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NAVSUP Logistics Research & Development Overview

Mr. Jack Speaker
NAVSUP Command Science Advisor

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Briefing Outline
NAVSUP Log R&D

- **NAVSUP Science Advisor**
  - **Background**
- **Navy Logistics Productivity**
  - **Collaborative Logistics Productivity (CLP)**
  - **Condition Based Maintenance (CBM)**
- **NAVSUP SBIR Projects**
- **S&T Consultation**

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NAVSUP Science Advisor Background

- Typically experienced in Navy Acquisition, Development and Production …. and Logistics.
- NAVSUP Command Science Advisor (CSA) position first created and manned in January 2003
- CSA is responsible to assist the NAVSUP claimancy with:
  - Identifying targets of opportunity within the community for Technology Insertion
  - Communicating requirements to the Naval Research Enterprise (NRE)
  - Serving as an “Ambassador” for the Navy S&T community
- Collaterally assigned as the NAVSUP Logistics R&D Program coordinator & SBIR Program manager

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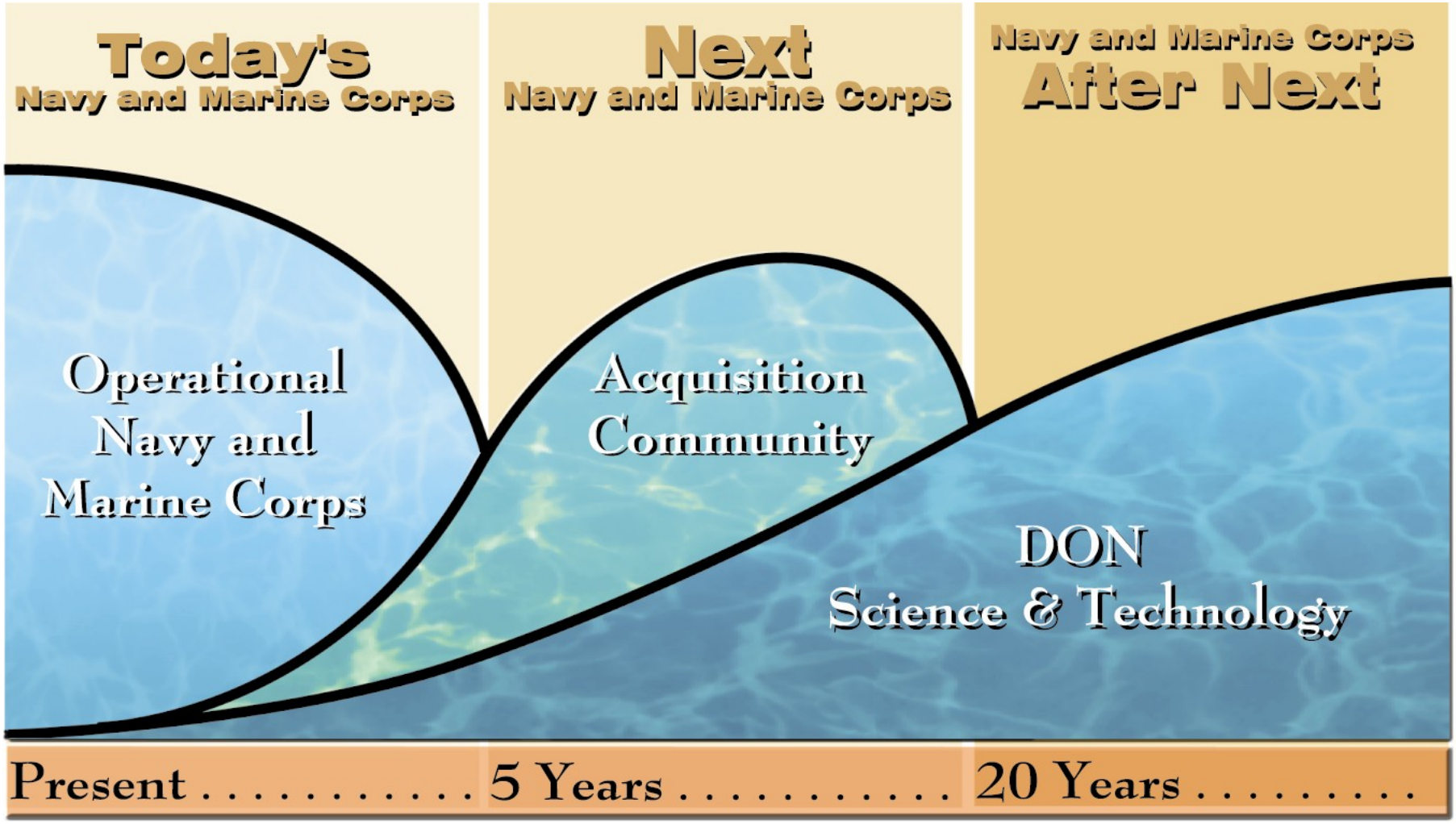
Science Advisor - Naval S&T Investment


Today's
Navy and Marine Corps
Next
Navy and Marine Corps
Navy and Marine Corps
After Next
Operational Navy and Marine Corps
Acquisition Community
DON Science & Technology
Present . . . . . 5 Years . . . . . 20 Years . . . . . .

2% **46%** **52%**

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NAVSUP Logistics R&D Perspective

In the Beginning: Mitigating the impact of material obsolescence via application of proven technologies to provide alternatives to traditional DMSMS supply management solutions (e.g., LOT buy or re-design)

Current Focus: Process re-engineering, technology insertion, O&S cost reduction … re-shaped to conform with the NAVSUP Transformation initiativ and leveraging the office of the Science Advisor

NAVSUP Strategic Plan objective
5.2.2: Establish a viable Logistics R&D Program

Log R&D Resource Base

1. (Mid-90's) SBIR initiative prototyped tech solutions
2. (1998) SUP04 assumed dormant Logistics R&D line
3. (FY00) Congressional plus-up funding (PE0603739N)
4. (Ongoing) POM submissions seeking programmed support

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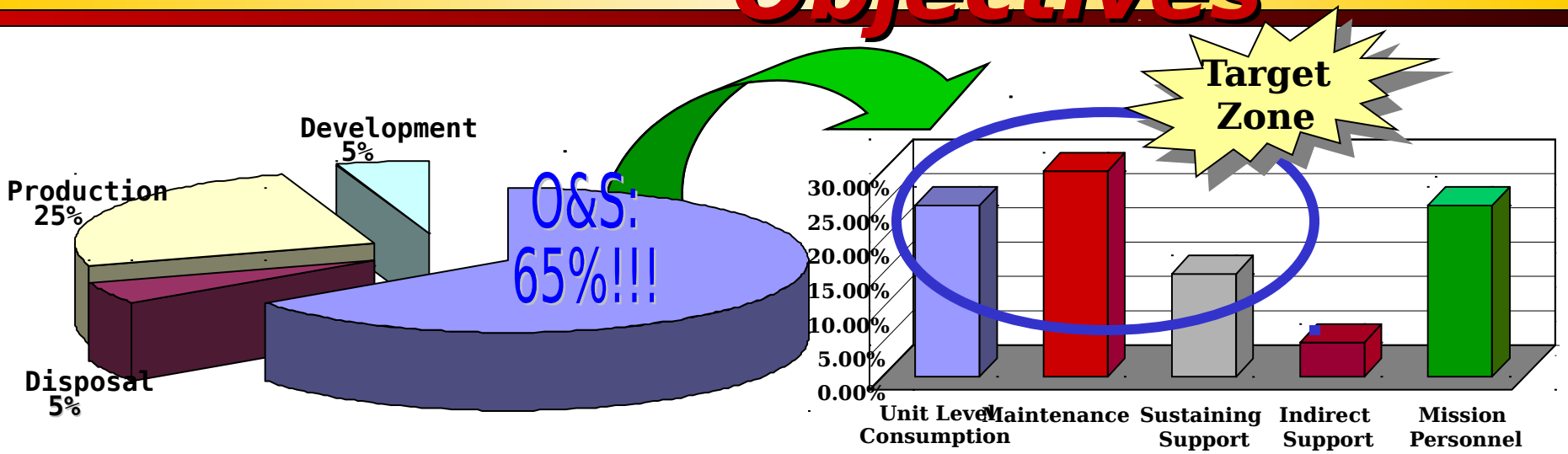
Navy Logistics Productivity Objectives



Four Programs through time:

- ⇨ **Rapid Retargeting (RRT) --- transferred to NAVICP**
- ⇨ **Compatible Processor Upgrade Program (CPUP) --- transferred to NAVAIR**
- ⇨ **Collaborative Logistics Productivity (CLP) --- ACTIVE**
- ⇨ **Sense & Respond Condition Based Maintenance (CBM) --- ACTIVE**

Technology Application…Process Improvement…Reduced O&S Costs

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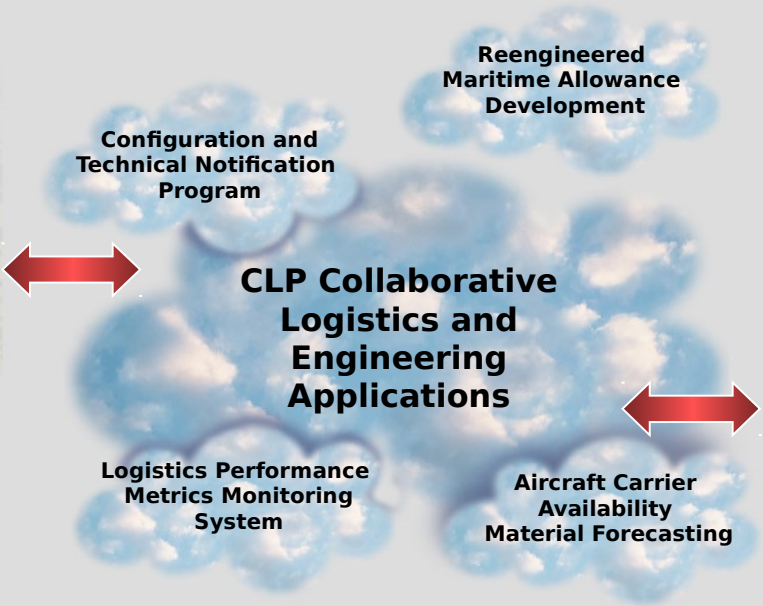
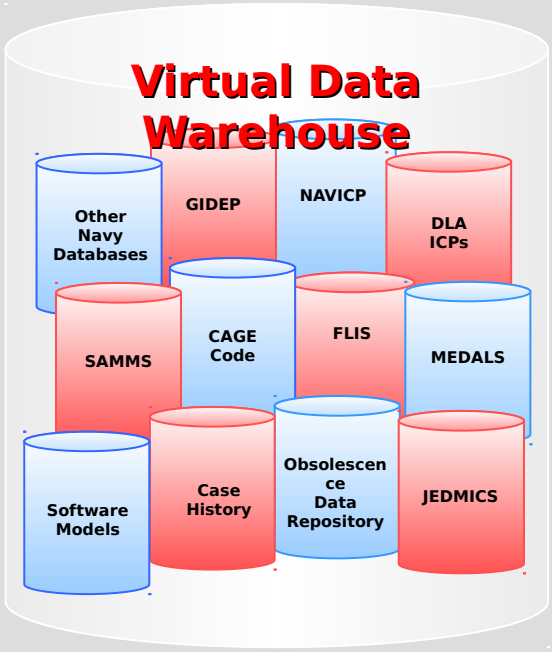
Collaborative Logistics Productivity (CLP)

Collaborative Environment:

- DLA ICPs
- Service ICPs
- Fleet
- IMAs/Depots
- Program Managers
- ISEAs/ESAs


Reengineered Maritime Allowance Development
Configuration and Technical Notification Program
CLP Collaborative Logistics and Engineering Applications
Logistics Performance Metrics Monitoring System
Aircraft Carrier Availability Material Forecasting



CLP creates a collaborative environment and the supporting web tools that enable access to logistics and engineering information for improved decision-making … while also bridging the

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Fielded CLP Initiatives CaTNP

Configuration and Technical Notification Program (CaTNP) ▪ **Web-based tool to facilitate the automated transfer of Design Change Notice (DCN) information on Navy interest items between the NAVICP and DLA's Defense Supply Centers. Also promotes the efficient and standardized use of DCN data to support purchase of Navy-interest spare and repair parts.**	***Benefits*** ▪ **More effective conveyance of DCN information enables smarter material procurement decisions** ▪ **Automates and standardizes labor intensive manual processes** ▪ **Allows clearer and more concise communications between the Navy and DLA** ▪ **Provides timely visibility of workload metrics and document status**
Stakeholders ▪ **Mr. John Dougherty – NAVICP**	***Project Metrics*** **ROI/Metrics:** – **Cost avoidance for cancelled pipeline procurements** – **Reduction in processing times**

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Fielded CLP Initiatives LPMMS

Logistics Performance Metrics Monitoring System (LPMMS) ▪ Tool to manage inventory investments for maximized readiness … monitoring customer wait time and effectiveness at various echelons of supply … data presented via Birdtrack display. Initial implementation completed at Naval Air Stations … extension to Naval Shipyards being considered.	***Benefits*** ▪ Provides a set of tools to automate the current manual metrics collection and display process ▪ Highlights potential problems within specific supply chain areas using a drill down technique throughout the various Birdtrack nodes ▪ Provides a tool capable of viewing metrics and potential supply chain impacts over a user-defined period of time using specified criteria
Stakeholders ▪ Mr. Steven Weir – NAVSUP	***Project Metrics*** ROI/Metrics: – Measures of Readiness – Material Fill Rates – Supply Chain Effectiveness

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Ongoing CLP Initiatives ReMAD

Re-engineered Maritime Allowance Development (ReMAD):

- **Allowance process tool developed to meet the requirements of the TYCOMs, NAVSEA, NAVICP, and NAVSUP. Initial phase provides web-based access to shipboard spares allowance data. Follow-on phase will support spares allowance computation and distribution capability … satisfying a core NAVICP business process not covered by Navy Converged ERP … with a link to ERP**

Benefits

- **Provides immediate visibility for authorized shipboard allowances**
- **Computes "optimized" allowances in real-time and stores history of data factors causing allowance changes**
- **Offers additional decision-making tools for "what-if" scenarios (e.g., investment vs. readiness evaluations)**
- **Acts as a key enabler of ERP and facilitates the retirement of UICP**

Stakeholders

- **Mr. Guy Storm – NAVSUP**
- **Mr. Joe Bruno – NAVICP**

Project Metrics

- **ROI/Metrics:**
  - **Reduced storeroom inventories**
  - **Reduced time and labor**

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Ongoing CLP Initiatives CV Forecasting

Aircraft Carrier Availability Material Forecasting:

- **NAVSEA (04L)/NAVSUP partnership to support Aircraft Carrier maintenance and long lead-time material needs. Development of Ship's Availability Requirements Planning – Material System (SHARP-MS) tool will provide multi-year material forecasts based on BOMs and Work Packages … built to meet the requirements of major Carrier availability planning stakeholders**

Benefits

- **Provides a standardized forecasting process for Carrier availability material requirements**
- **Decreases ship repair times through improved material availability**
- **Streamlines shipyard performance by reducing contingency spikes**
- **Reduces costs of expediting emergent material acquisitions and churn in shipyard material inventories**

Stakeholders

- **CDR Tom Simcik – NAVSEA (04L4)**
- **CAPT Lindsay Perkins – NAVICP**

Project Metrics

- **ROI/Metrics:**
  - **Improved material availability**

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New FY04 CLP Initiatives

- Ammunition sentencing application using hand-held devices
- SMART Warehouse project using RFID
- NAVSUP One Touch Support re-engineering via Web services
- Web tool for gathering and housing pre-provisioning data in support of weapons system life cycle management
- Web tool to improve visibility and responsiveness of direct vendor delivery shipments (proposed)

Projects submitted in response to Jan 04 NAVSUP data call to all NAVSEA/NAVAIR/ SPAWAR/ NAVSUP logistics codes … initial phase of project execution now underway

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Condition Based Maintenance (CBM)

SENSE & RESPOND Logistics Objective: Extension of advanced diagnostics and prognostics technology to interface with legacy shipboard maintenance and supply applications

Technology Demonstration (Apr – Jun 04): Shipboard demo of health monitoring technology onboard a Ready Reserve Force platform (T-ACS-6)

Sense & Respond Demonstration (Apr 04 – Sep 05): Development and testing of fleet CBM application … FIPS-140 wireless protocol and full CCMI Level III compliant … on an acquisition platform … with an enhanced diagnostics capability and an interface with legacy shipboard logistics applications (SKED, OMMS-NG & R-Supply)

SS Cornhusker State (T-ACS-6)

Prime: NGMS / RLW Inc.

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SBIR Projects
Life Cycle Cost Model

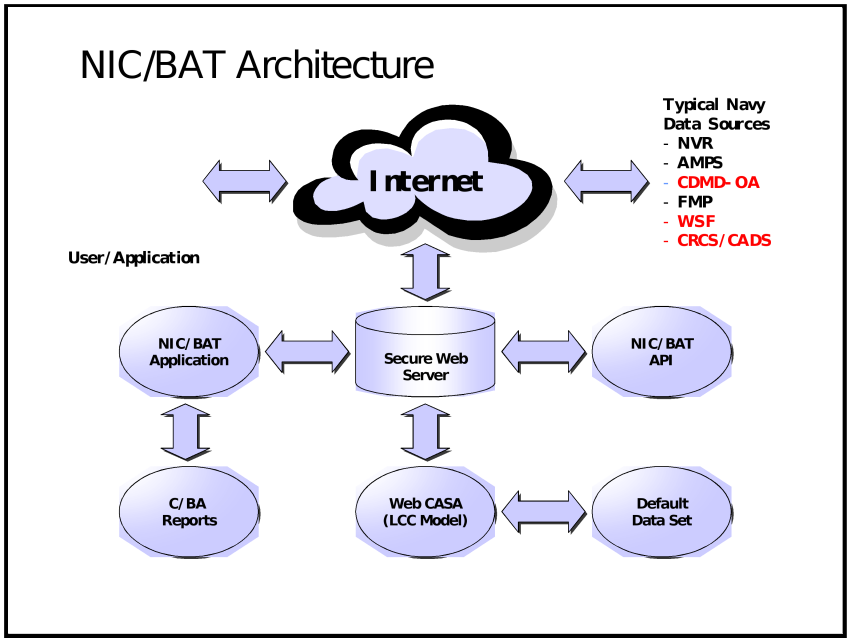
NIC/BAT

Navy Integrated Cost / Benefit Analysis Tool

Design Concept:

An internet accessible Life Cycle Cost (LCC) model for rapid completion of Navy related cost/benefit analyses in a collaborative environment … linked to existing Navy databases for "auto-completion" of LCC model inputs … providing authoritative default values for selected model elements … and reporting out in standard TOC reduction format.

- SBIR (N01-150) Phase II initiative -



Prime: TCNI

SBIR Projects
Hardware Re-certification

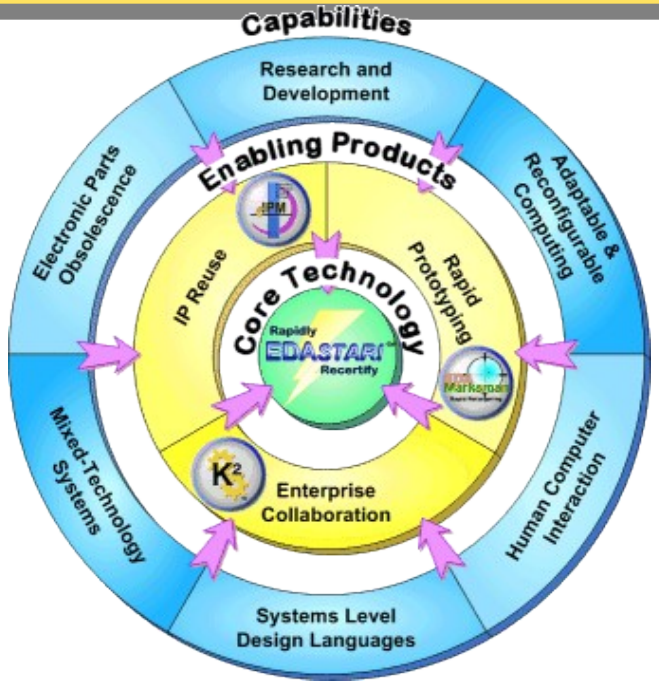
SMART

Design Concept:

A unique and commercially viable solution to the problem of verifying and validating a replacement/ upgrade of an obsolete mixed-technology system that includes digital, analog and mechanical subsystems.

- SBIR (N01-150) Phase II initiative -

System Management for Advanced & Replacement Technology



Prime: EDAptive Computing, Inc.

SBIR Projects
3-D Anthropometry

3-Dimensional Scanning System

Design Concept:

Scanning of human body dimensions for apparel design and manufacturing process re-engineering, enabling mass customization with the potential for reduced inventories, fewer sizing "rejections" and increased customer satisfaction.

- SBIR (N02-008) Phase II initiative -

Prime: Zweave, Inc.

SBIR Projects
Container Security

Container Sensor Technology

Design Concept:

Evaluation of container seals, RF tags and tracking systems to potentially provide an effective bio, nuclear and explosives material detection & reporting capability. Asset tracking and detection of container tampering is also being considered. ONR initiative under NAVSUP functional management.

- SBIR (N02-207) Phase II award in process -

Prime: Fulcrum Corporation

Nested RFID Tags to Improve Supply Chain Management

Design Concept:

Integration of active/passive tag technologies for more robust supply chain management solutions. A desired capability would allow an active device to automatically poll information from individual item passive tags, and either report the collected data or store the information onboard the active device at the pallet/container level.

- SBIR (N04-180) Phase I solicitation issued -

Elimination of Wood Dunnage

Design Concept:

Reduction of excessive Total Ownership Costs associated with the blocking and bracing requirements supporting intra-station movements, over-the-road land transportation and CLF shipments … particularly, but not exclusively, focused on Class V (munitions) material. Potential solutions could employ devices such as air bags or adjustable metal stanchions.

- SBIR (N04-224) Phase I Pre-Solicitation -

Labor & lumber intensive stowage in the lower hold of a commercial breakbulk ship

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S&T Consultation Technology Initiatives

- **Jet Engines & Containers: Rapid implementation plan for tracking assets with enabling technologies**
- **Operational Logistics: Involvement with N42 OPLOG IPT, HQMC LPV, DLA Log R&D, JILWG**
- **Naval Logistics Command and Control (NLC2): Technology Road Map & Sources Sought assistance**
- **Collateral support agent role to the NAVSUP, ACOS Operational Support:**
  - **Assist with the planning and design of combat logistics support ships, replenishment equipment, and ordnance handling and transportation materials**

S&T Consultation
Engines & Cans Tracking

- Developed comprehensive AIT/RFID Technology Plan for Jet Engines & Engine Containers … expeditious (12 month) implementation plan proposal included
- Plan transitioned to NAVAIR/NAVICP Engine Container Management IPT for implementation
- Involvement triggered by NAVSUP's desire to quickly demonstrate a successful application of RFID technology to manage capital assets

Sources Sought Notice results being reviewed … RFP issuance anticipated

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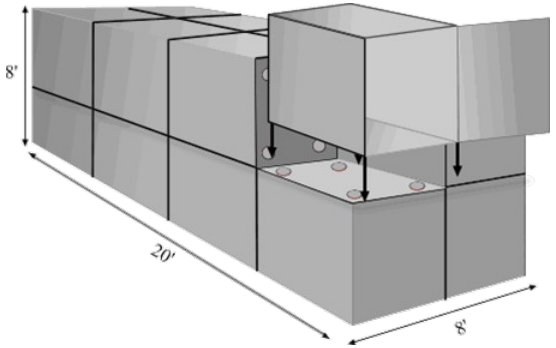
S&T Consultation
JILWG

- Joint Intermodal Logistics Working Group initiative chaired by the Navy PHS&T Center (Earle)
- Involvement triggered by visit of LTG Kelley (HQ USMC I&L) and call for white paper to identify and discuss intermodal technology enablers … critical component of Sea Basing concept
- Focus of efforts on Joint Modular Intermodal Container (JMIC) … factory-to-foxhole facilitator … collapsible, with tracking technologies



Point of contact: Mr. Ken Zimms, Navy PHS&T Center, Earle NJ … 732-866-2801

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S&T Consultation
NLC2

- Naval Logistics Command & Control is an element of the Expeditionary Logistics FNC
- NLC2 will provide the tactical and logistical command and control within a common C4ISR (command, control, communications, computers and reconnaissance) architecture shared with naval forces
- NAVSUP CSA to assist ONR POC in determining requirements to build RFP and evaluate BAA for NLC2 proposal

BACKUP DATA

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Logistics R&D Funding/Obligation History

Program	FY01 ($M)	R'cd/Ob'd	FY02 ($M)	R'cd/Ob'd	FY03 ($M)	R'cd/Ob'd	FY04 ($M)	R'cd
RRT	3.4	5/01-11/01	4.2	8/02-12/02	2.8	5/03-9/03		----
CPUP	3.3	5/01- 8/01	2.4	8/02- 9/02	2.0	5/03-8/03		----
CLP	5.8	5/01- 9/01	6.6	8/02-12/02	6.8	5/03-10/03	4.8	11/0
CBM		----		----		----	2.8	1/04
NLP Total	**12.5**		**13.2**	**11.6**		**7.6**		